

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION

MVS ROYAL OAK, LLC

Plaintiff,

v.

Case No. 05-73512  
Hon. Sean F. Cox

HTG-TIFFIN, LLC and  
HTG CORPORATION, INC.,

Defendants.

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**OPINION AND ORDER**

This matter is before the Court on Defendants' Motion for summary judgment. Both parties fully briefed the issues and a hearing was held October 3, 2006. For the following reasons, the Court denies Defendants' Motion.

**I. BACKGROUND**

This action arises out of the alleged patent infringement of Plaintiff's patent, U.S. Patent No. 4,955,773 ("the '773 patent"), for capped wheel nuts.

Capped wheel nuts are used to secure a wheel to the axle of a vehicle. It consists of a usually hexagonal nut inserted in a metal cap. The nut insert and the cap are then welded together. The issue for resolution in this case is exactly where the '773 patent requires the weld to be.

The end of the nut insert that bears against the wheel, called the first end, has a conical tip. The diagonal sides of the conical tip end in a longitudinally extending edge that intersects a lateral edge, or shoulder, formed by the junction between the conical tip and the hexagonal sides.

This corner, made by the meeting of the two edges, is called the circumferential edge. The other end of the nut insert, which is covered by the cap, is called the second end.

The cap has two ends - the end that covers the second end of the nut insert, and an open end. The dispute here is how the '773 patent defines the "free end" or the end of the open end of the cap.

The '773 patent has 31 claims, however, only five are asserted:

- (3) A decorative capped wheel nut for holding a wheel on a motor vehicle and being of the type exposed to view on the wheel, comprising:
  - a nut insert having a central threaded aperture, polygonal sides, a first end adapted to engage said wheel and a second end opposite said first end, said nut insert including a shoulder and including a generally longitudinally extending surface adjacent said first end, said generally longitudinally extending surface intersecting said shoulder to form essentially a projection between said polygonal sides and said first end; and
  - a cap for said nut insert, said cap having a side section extending over the polygonal sides of said nut insert and an end section covering the second end of said nut insert, said cap including a free end overlying said projection, only said free end being welded to said nut insert at said projection the free end defined as the portion of the cap most remote from the end section of the cap.
- (4) The decorative capped wheel nut of claim 3, wherein said cap free end portion is welded to said nut insert at said projection around the entire circumference of said nut insert to form a water tight seal between said nut insert and said cap.
- (8) The decorative capped wheel nut of claim 3, wherein said cap free end portion extends laterally outward beyond said nut insert projection.
- (28) A decorative capped wheel nut for holding a wheel on a motor vehicle where the decorative capped wheel nut is exposed to view on the wheel comprising;
  - a nut insert having a central threaded aperture, polygonal sides, a first end adapted to engage the wheel, a second end opposite the first end, and a portion of the nut insert positioned longitudinally between said polygonal sides and said first end defining a weld projection; and

a cap for said nut insert, said cap having a side section extending over the polygonal sides of the nut insert and an end section covering the second end of the nut insert, said cap having a free end, said cap free end welded to said nut insert only at said weld projection, the free end being defined as the portion of the cap most remote from the end section of the cap.

- (29) The decorative capped wheel nut of claim 28 wherein said cap free end is welded to said nut insert solely at said weld projection.

Plaintiff claims Defendants manufacture several capped wheel nuts that infringe the '773 patent ("accused devices"). The accused devices allegedly infringe because the weld is on the free end, although it is not at the outermost edge of the free end. Plaintiff interprets "free end" to mean *a portion* of the end of the open end of the cap. Defendants interpret "free end" to mean the absolute end, *the point* most remote from the closed end of the cap. The disputed claim language is the scope of the phrase "the free end being defined as the portion of the cap most remote from the end section of the cap." Plaintiff filed a Complaint alleging patent infringement on September 13, 2005.

On June 2, 2006, Defendants filed a Motion for summary judgment. A hearing was held on October 3, 2006.

### **III. STANDARD OF REVIEW**

Under Fed. R. Civ. P 56(c), summary judgment may be granted "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." *Copeland v. Machulis*, 57 F.3d 476, 478 (6<sup>th</sup> Cir. 1995). A fact is "material" and precludes a grant of summary judgment if "proof of that fact would have [the] effect of establishing or refuting one of the essential elements of the cause of action or

defense asserted by the parties, and would necessarily affect application of appropriate principle[s] of law to the rights and obligations of the parties.” *Kendall v. Hoover Co.*, 751 F.2d 171, 174 (6<sup>th</sup> Cir. 1984). The court must view the evidence in the light most favorable to the nonmoving party and it must also draw all reasonable inferences in the nonmoving party’s favor. *Cox v. Kentucky Dept. of Transp.*, 53 F.3d 146, 150 (6<sup>th</sup> Cir. 1995).

#### **IV. ANALYSIS**

##### **A. Infringement**

There are two steps involved in determining patent infringement: (1) the court must determine the scope of the claim; and (2) the properly construed claim must be compared to the accused device to determine whether all of the claim limitations are present either literally or by a substantial equivalent. *Amazon.com, Inc. v. BarnesandNoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001). Step one - claim construction - is a question of law for the Court; step two - comparing claims to the accused device - is a question of fact. *Dynacore Holdings Corporation v. U.S. Philips Corporation*, 363 F.3d 1263, 1273 (Fed. Cir. 2004).

To ascertain the meaning of claims, courts rely on the claims, the specification, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995). That type of evidence is considered intrinsic. *Id.* Additionally, the court may receive extrinsic evidence “to aid the court in coming to a correct conclusion as to the true meaning of the language employed in the patent.” *Id.* at 980. Extrinsic evidence includes expert testimony given to aid the court in ascertaining the meaning of a technical or scientific term or term of art; dictionaries; and, learned treatises. *Id.*

##### **1. Scope of the Claims**

The language at issue here is the phrase “the free end being defined as the portion of the cap most remote from the end section of the cap” as used in independent claims 3 and 28 of the ‘773 patent. The dispute centers on whether the quoted language limits patent protection only to capped wheel nuts with a weld at the outermost edge of the open end, or whether it encompasses capped wheel nuts with a weld on a “free end” portion in general.

**a. claim language**

The plain language of the claims provides that only the free end is welded to the nut insert, at the projection formed on the nut insert where it extends out to form the circumferential edge. Claim 3 states that the cap has a “free end overlying said projection” it is this “free end” that is to be welded to the nut insert projection (“only said free end being welded to said nut insert at said projection”). Claim 3 goes on to define the free end as “the portion of the cap most remote from the end section of the cap.” This description uses the word *portion*, not the point, most remote from the end section of the cap. This indicates that there is some flexibility in where along the “free end” portion the weld can be.

Based on the plain language of Claim 3, the “free end” is the section, or portion, of the cap that overlies the projection. The projection is where the “generally longitudinally extending surface [intersects the] shoulder.” The free end is the portion of the cap most remote, or farthest from, the end section, which overlies the projection. According to the plain language of Claim 3, the weld must be on the free end at the projection. It does not have to be at the very tip of the free end.

Claim 28 is similarly worded. The free end is the same as in Claim 3, however, in Claim 28 there is a raised weld projection on the extending portion of the nut insert (this portion is flat

in the Claim 3 embodiment). By the terms of Claim 28, the weld may only be at the weld projection. However, the free end may extend beyond the weld projection.

At the hearing, Defendants urged the Court to rely on dictionary definitions to define the phrase “most remote” as used in Claims 3 and 28. However, resort to extrinsic evidence is unnecessary. The words “most remote” are given their plain meaning in the claims. The dispute here is whether the free end - which is indisputably located at the end “most remote” from the end section - refers to a portion having some degree of axial length, or to the point at the very end of the open end.

#### **b. specification**

The specification is consistent with the above interpretation. “The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.” *Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001).

The summary of the invention section states that “[t]he weld effectively seals against moisture entering underneath the cap by locating the weld *near* the lower extending edge of the cap. In addition, because the cap is welded *near* its lower extending edge...” [Plaintiff’s Response, Exhibit A](emphasis added). This supports Plaintiff’s assertion that the patent contemplates a weld along the free end portion - not necessarily at the outermost point.

The summary of the invention section also notes that the cap includes an end section and a side section, “the side section extending over the sides of the nut insert, and the side section may terminate in a free end, which free end may be either flared outwardly, flared inwardly, or not flared at all.” *Id.* It goes on to say “the side sections terminates [sic] in a free end which free

end is welded to the nut insert.” *Id.* This language indicates that the “free end” is a portion that potentially flares out from the side section of the cap, thus, it is not limited to a specific point. Moreover, the “free end” must have some degree of axial length in order to flare. Counsel for Defendant admitted at the hearing, in response to a question by the Court, that the language of the specification stating that the free end may be flared requires that the free end be a portion with some discernable length.

The detailed description of the invention further supports this interpretation. With reference to Figure 1, the patent states “[t]he side section 36 of the cap 14 (terminates in a free edge) or skirt portion 38 which in this embodiment is flared outwardly. Hence, the cap skirt may be referred to as a cap flange or flared end.” *Id.* This language defines the “free end” described in Claims 3 and 28. Again, it is referred to as a portion, not a particular point. Regarding Figure 3, the weld is to occur where the “cap skirt or free edge contacts the circumferential edge of the nut body.” *Id.* The description goes on to note that **“the free edge of the cap may extend slightly beyond the circumferential edge.”** *Id.* Clearly this embodiment did not envision the interpretation advanced by Defendants that requires the weld to be at the outermost point of the open end.

### c. prosecution history

The prosecution history is important in identifying exactly what the ‘773 patent claims.

Initially, the patent examiner rejected the asserted claims as anticipated<sup>1</sup> by U.S. Patent No. 4,123,961 (the ‘961 patent) invented by Joseph Chaivre and Albert Jadach. The patent

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<sup>1</sup>“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *Atlas Powder Company v. Ireco, Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999). See also 35 USC §102.

examiner rejected the claims stating:

Chaivre '961 discloses a decorative capped wheel nut (Fig. 10) comprising a nut insert (130), and a cap (132). Said nut insert comprises: a first end (102, 104) for engaging a wheel; a second end (116); polygonal sides; a shoulder (130) being a weld projection defining a circumferential edge for welding said cap thereto. Said cap comprise: a top section (124) extending longitudinally from the second end of said nut insert; a side section (132) extending over the polygonal sides of said nut insert forming a plurality of wrench flats; and a flanged free end portion (134) extending from said wrench flats laterally outward and away from said top section to overlie, generally tangentially, the edge of said nut insert so that a weld can be made by an electrical charge. Said free end extends laterally beyond said edge.

[Plaintiff's Response, Exhibit B].

In response, Plaintiff filed a declaration by the inventor of the '773 patent, John Toth ("Toth"). In his declaration, Toth indicated that he had personally worked with Chaivre and Jadach on the '961 patent. Toth explained that the concept of the '961 patent was to "weld on the end of the nut insert, where the nut insert was in contact with a portion of the cap, or, in Figure 10, on the horizontal flange, where the horizontal flange was in contact with a portion of the cap." [Plaintiff's Response, Exhibit B]. Toth asserted that the '961 patent did not suggest welding at the free end of the cap flange, which he defined as "the portion of the flange farthest away from the domed cap." *Id.* Indeed, Toth claimed the manufacturing equipment owned by the company the inventors worked for was not even capable of welding at the free end at the time of the '961 patent.

By contrast, regarding the '773 patent, Toth stated that he discovered that "it is desirable to place the weld as close to the free end or free edge of the skirt of the cap as possible to seal the cap to the nut insert such that water cannot enter between the cap and the nut insert." *Id.* The reason it is desirable to place the weld in that position is to prevent corrosives "from entering



between the cap and the nut insert and causing corrosion of the thin stainless steel cap.” *Id.*

Toth went on to describe that corrosion was a problem even in the Figure 10 embodiment of the ‘961 patent because water could enter “between the cap and the nut insert on the axially positioned, circumferential portion of the flange just to the right of the lead line to reference numeral 136.” *Id.* According to Toth, the weld placement in the ‘961 patent would not have sealed the “axial or longitudinal circumferential portion between the nut insert flange 136 and the cap.”

Toth’s declaration is consistent with the specification of the ‘961 patent. The specification of the ‘961 patent states “[t]he present invention provides capped wheel nuts wherein the cap is *welded to the nut body at points on a surface extending substantially laterally to the central axis of the nut rather than along the axial surfaces which form the major contact areas between the nut and the cap.*” *Id.* With reference to Figure 10, cited by the patent examiner as anticipating the ‘773 patent, the ‘961 patent states that “FIG. 10 illustrates an embodiment of the invention wherein a nut insert...is joined to a cap 132 *by welds formed between the two at a ring 134 extending over the upper lateral surface of the nut flange 136.*” *Id.*

Following an interview in March 1990, the patent examiner indicated that “favorable consideration would be given if applicant claimed the weld only at the circumferential edge.” This distinguished the ‘773 patent from the ‘961 patent, where the weld was along the top of the nut flange, before the circumferential edge.

Additionally, following another interview in April 1990, the patent examiner issued a notice of allowability for the asserted claims. During the interview, claims 3 and 28 of the ‘773

patent were discussed. The examiner agreed on wording to more clearly define the “free end” of the cap. *Id.* The examiner required the addition of the disputed language “the free end being defined as the *portion* of the cap most remote from the end section of the cap.” [Plaintiff’s Response, Exhibit B]. The examiner stated his reasons for the allowance as:

The prior art of record, in particular the reference to Chaivre et al., does not show the feature of free end portion of the cap being welded only to the circumferential edge of a shoulder. Said feature is not to be so limiting as to say that the cap cannot also be welded at another portion such as along the sides and/or the closed end. Furthermore, the prior art of record, again in particular Chaivre et al., does not disclose the cap welded to the nut at the free end of the cap as clearly defined in the claims.

*Id.* (emphasis original).

The prosecution history is consistent with the interpretation derived from the claim language and specification.

Undoubtedly, the ‘773 patent is differentiated from the ‘961 patent because it discloses welding only at the circumferential edge, rather than along the surface where the nut flange is in contact with the cap. This clarification was made by Toth’s declaration and is made clear by the patent examiner’s conclusion that favorable consideration would be given if the patent claimed welds only at the circumferential edge.

In addition, the patent examiner required that the free end be the portion farthest from the end section of the cap. Welding at this location solves the problem of corrosion found in the ‘961 patent because it prevents moisture from entering under the cap. However, because the patent examiner refers to the free end as a portion, it is clear that the free end may extend slightly beyond the circumferential edge or weld projection.

Defendants’ interpretation of the prosecution history would require that the weld be at

absolute outermost point of the open end of the cap. “HTG’s position...thus precludes from the scope of coverage of the asserted claims wheel nuts which have **any** measurable extension of the skirt beyond the weld location.” [Defendants’ Reply, p.3](emphasis added). For this to occur, the open end of the cap would have to terminate exactly at the circumferential edge. Otherwise the “free end” would overly the circumferential edge, which Defendants argue is not contemplated by the ‘773 patent.

The patent examiner did not require that the weld on the ‘773 patent must be at the circumferential edge and simultaneously at the point most remote from the end section of the cap. It was the patent examiner’s own amendment that defined the free end as “the **portion** of the cap most remote from the end section of the cap.”

Taken together, the intrinsic evidence demonstrates that the free end may extend slightly beyond the circumferential edge. In his declaration, Toth stated that it was desirable to “place the weld as close to the free end...as possible.” He contemplated that the weld would not always be at the absolute end of the open end of the cap. Additionally, the purpose of welding at this location is to prevent moisture from getting in between the cap and the nut insert. This was a problem in the ‘961 patent because the cap extended over the sides of the circumferential projection but were not sealed. The specification of the ‘773 patent, and Toth’s declaration, make clear that the advantage of the ‘773 patent over the ‘961 patent was that “[t]he weld effectively seals against moisture entering underneath the cap.” Accordingly, the free end may extend slightly beyond the circumferential edge, but it may not extend as far as it did in the Figure 10 embodiment of the ‘961 patent. Otherwise, the purported advantage of the ‘773 patent would be lost.

With respect to Claim 3, the prosecution history, together with the plain language of the claim, and the specification, reveal that the '773 patent covers capped wheel nuts where the weld is at the circumferential edge of the nut insert and along the free end of the cap. The free end is the portion of the cap overlying the projection created by the intersection of the generally longitudinally extending surface of the nut insert and the shoulder of the nut insert. The free end may extend slightly beyond the circumferential edge. The preferred embodiments of the '773 patent support this claim construction..

With respect to Claim 28, the patent covers capped wheel nuts where the weld is only at the weld projection and along the free end of the cap. The free end may extend slightly beyond the weld projection.

Because the intrinsic evidence was sufficient to aid the Court in coming to a correct conclusion on the true meaning of the language employed in the '773 patent, resort to extrinsic evidence is not required.

## **2. Application of properly construed claim to Defendants' devices**

The next step in the infringement analysis is to determine whether the accused devices fall within the scope of protection afforded by the disputed Claims of Plaintiff's patent.

*Markman*, 52 F.3d at 976.

### **Literal infringement**

A claim for literal infringement is proved when every limitation in a claim is present in the accused device exactly. *Jurgens v. McKasy*, 927 F.2d 1552, 1560 (Fed. Cir. 1991). If one limitation is missing or not met, there is no literal infringement. *Markman*, 52 F.3d at 976.

Defendants did not do a limitation by limitation comparison of the accused devices and

the '773 patent. Instead, Defendants conclude that because the accused wheel nuts are characterized by a skirt extending well beyond the location of the weld, they are entitled to summary judgment. In their Motion, Defendants state "the cap in each of the accused products includes a radially extending skirt along which the cap is welded to the welding projection of the nut insert, this skirt extending measurably beyond the location of the weld." [Motion, pp.2-3]. Defendant conceded at the hearing that the accused devices are all welded at a weld projection.

Defendants do not address what they consider "measurably beyond." However, in an expert report, several of the accused devices' "free end" measures less than a millimeter beyond the weld location. [Motion, Exhibit E, p.14]. There remains a genuine issue of material fact whether the accused devices literally infringe the '773 patent. Accordingly, Defendants are not entitled to summary judgment on the issue of literal infringement.

## **B. Validity**

Defendants contend that if Plaintiff's claim interpretation is accepted, then the '773 patent is invalid in light of the prior art.

Patents enjoy a statutory presumption of validity. 35 USC §282. A party seeking summary judgment has the burden of showing by clear and convincing evidence, after inferences are drawn in his favor, that the patent is invalid. *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1355 (Fed.Cir.1999). "The burden of proving invalidity on summary judgment is high." *Schumer v. Laboratory Computer Systems, Inc.*, 308 F.3d 1304, 1316 (Fed. Cir. 2002).

Defendants assert that the '773 patent is invalid because it is anticipated either by DE 8311902U or "the prior art cited by the Patent Office during prosecution of the '773 patent." [Motion, p.13]. At the hearing, Defendants specifically referenced the '961 patent, *supra*, as

invalidating the '773 patent.

“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *Atlas Powder Company v. Ireco, Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999). Whether a patent is anticipated is a question of fact. *Schumer*, 308 F.3d at 1315.

To prove invalidity, Defendants offer a claim chart comparing the disputed claims of the '773 patent to the disclosures of DE 8311902U. Defendants do not allege the chart was composed by one skilled in the art. No evidence was offered to establish anticipation by the prior art cited during prosecution of the '773 patent.

“Evidence of invalidity must be clear as well as convincing. Typically, testimony concerning anticipation must be testimony from one skilled in the art and must identify each claim element, and explain in detail how each claim element is disclosed in the prior art reference. The testimony is insufficient if it is merely conclusory.” *Schumer*, 308 F.3d at 1315-1316. “[T]he dispositive question regarding anticipation is whether one *skilled in the art* would reasonably understand or infer from the prior art reference’s teaching that every claim element was disclosed in that single reference.” *Dayco Products, Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003)(citation omitted)(emphasis original).

Defendants failed to offer any evidence from one skilled in the art regarding either of the references they identify as anticipating the '773 patent. Moreover, it is clear from the prosecution history that the '773 patent is distinguished from the '961 patent because it requires the weld to be only at the circumferential edge and along the free end, whereas the '961 patent disclosed a weld on the surface of the nut insert where it was in contact with the cap but short of

the circumferential edge. Lastly, it is not readily apparent that DE 8311902U anticipates the '773 patent.

Accordingly, Defendants are not entitled to summary judgment on the issue of validity.

#### **V. CONCLUSION**

For the foregoing reasons, the Court denies Defendants' Motion for summary judgment.

**IT IS SO ORDERED.**

**S/Sean F. Cox**

**Sean F. Cox**

**United States District Judge**

**Dated: October 11, 2006**

**I hereby certify that a copy of the foregoing document was served upon counsel of record on October 11, 2006, by electronic and/or ordinary mail.**

**S/Jennifer Hernandez**

**Case Manager**